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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,290	05/17/2005	Paul R Simons	GB 020199	5986
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EXAMINER				
THIER, MICHAEL				
ART UNIT		PAPER NUMBER		
2617				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/535,290

**Applicant(s)**

SIMONS, PAUL R

**Examiner**

MICHAEL T. THIER

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/24/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-11, 13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-11, 13 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments (with respect to claims 1, 6, and 7, which now contain subject matter from previously rejected dependent claim 4) filed 4/24/2009 have been fully considered and have been found persuasive (i.e. based on the arguments regarding the subject matter of dependent claim 4 which has been added to the independent claims). A new Non-Final rejection is provided below.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-9, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (US 7035644) in view of Wasew et al. (US 7324543) in further view of Cain (US 2003/0193908).

**Regarding claims 1, 6, 7, 11, and 13.** Maruyama teaches a communication system, primary station, and a method of operating a communication system (title and abstract) comprising:

a primary station (figures 2 and 9, Base Station), which has means for exchanging radio messages (figure 2 and 9, items 1a-1f and 52a-52f) with a plurality of

secondary stations (figures 2 and 9, 5A-5F, 51A-51F, Terminals 1-N), over a number of communication channels (figure 5a, channels M through M+3 \) the method comprising: the primary station exchanging radio messages with the secondary stations over a number of radio channels in accordance with a predetermined protocol, (figure 5A, and column 5 lines 61-62, channels M, M+1, M+2, and M+3 are used to communicate with terminals A, B, C, and D).

monitoring the capacity of said channels (column 7 lines 61-65, i.e. if the amount of communication data from a radio terminal becomes larger than the channel capacity of the channel...thus the channel capacity is monitored); and

controlling registration of at least one secondary station to a channel at least in part in dependence on said monitored capacity. (column 9 lines 30-45, i.e. when a new radio terminal, terminal E (a terminal not already assigned a channel) sends a channel assignment message, the controller will assign a specific slot on a specific channel to terminal E based on the channel assignment status. This clearly reads on controlling registration of a secondary station to a channel at least in part in dependence on the monitored capacity.)

However, Maruyama does not specifically disclose wherein the monitoring of channel capacity comprises: comparing the number of secondary stations registered per channel against a predetermined threshold, and blocking registration for those channels having a number of secondary stations registered per channel equal to or above the predetermined threshold.

Wassew teaches a method and apparatus for protecting against overload in a

mobile communication network (title and abstract). He teaches comparing the number of secondary stations registered per channel against a predetermined threshold (column 4 lines 3-8), and blocking registration for those channels having a number of secondary stations registered per channel equal to or above the predetermined threshold. (column 4 lines 5-13)

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings of Wassew with the teachings as in Maruyama. The motivation for doing so would have been to allow for a simple an efficient way to avoid system overload. (Wassew column 3 lines 4-7)

However, Maruyama and Wassew do not specifically disclose the idea of monitoring the number of time slots available per frame time for a channel.

Cain teaches a method and device for establishing communication links (title and abstract). He teaches the idea of monitoring the number of time slots available per frame time for a channel in par. 16 (i.e. list of available time slots), par. 18-19 (i.e. at least one available time slot in each time frame and each time frame may have up to at least  $2N-1$  available time slots). Further see par. 119 and par. 136 where he explains that measurements are needed for efficient allocation of available time slots in each link (i.e. channel). He explains that measures will include available time slots (i.e. monitoring available time slots) per frame on each link (i.e. thus monitoring available time slots per frame for a given channel).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings of Cain with the teachings as in the combination

of Wassew and Maruyama. The motivation for doing so would have been to allow for efficient allocation of available time slots. (Cain par. 136)

**Regarding claim 3.** Maruyama further teaches wherein the monitored channel having the lowest number of registered secondary stations is used to register an enquiring secondary station. (column 6 lines 43-51, the system will not register a terminal to one of the channels that already has a terminal on it, thus registration to those channels is blocked. The system will decrease the number of channels supplied to a given terminal thus making a channel with no terminals on it (i.e. clearly the lowest number of terminals since it has no terminals), and then supply that channel to the terminal that requested a connection.)

**Regarding claim 4.** Maruyama wherein beacon signals are transmitted on each radio channel (column 3 lines 9-14 and column 8 lines 1-10, i.e. channel assignment permission messages) and Cain further teaches wherein the capacity of each channel is monitored by monitoring the number of time slots available per frame time for that channel. (par. 119 and 136)

**Regarding claim 5.** Maruyama further teaches wherein the enquiring secondary station requesting guaranteed time slots is allocated a radio channel having available unused timeslots for said request. (column 8 lines 36-57, specifically lines 36-39 and 46-48)

**Regarding claim 8.** Maruyama further teaches wherein the means for exchanging radio messages comprises a communication module having a plurality of transceivers (figure 2 and 9 items 21 and 26, and 71 and 76) coupled to said monitoring

(figures 2 and 9, items 4 and 53) and control means (figures 2 and 9, items 5 and 54), and wherein each transceiver operates a single radio channel. (column 7 lines 12-25)

**Regarding claim 9.** Cain further teaches wherein the means for monitoring capacity monitors the available timeslots (par. 119 and 136) and Maruyama further teaches periodic beacon signals transmitted by transceivers on respective channels (column 3 lines 9-14 and column 8 lines 1-10, i.e. channel assignment permission messages), and wherein the control means allocates a radio channel having available unused timeslots to the at least one enquiring secondary station. (column 8 lines 36-57, specifically lines 36-39 and 46-48)

4. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (US 7035644) in view of Wassew et al. (US 7324543) in further view of Cain (US 2003/0193908) and Bahl et al. (US 2004/0204071).

**Regarding claim 10.** Maruyama, Wassew, and Cain teach the limitations of the previous claims.

However, they do not specifically disclose that the protocol is ZigBee.

Bahl teaches the idea of a wireless communication system and utilizing the protocol of ZigBee in par. 42.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to utilize the teachings of Bahl with the teachings as in the combination of Maruyama, Wassew, and Cain. The motivation for doing so would have been to allow for a extremely low cost protocol to be utilized (par. 42, Bahl)

**Regarding claim 15.** Maruyama further teaches a plurality of piconets simultaneously in the same location operating separate radio channels in figure 1 items E1 and E2. Bahl further teaches the use of ZigBee protocol in par. 42. Maruyama further teaches a microprocessor to obtain information and monitor a number of members in each piconet and which channels are in use (figure 2, items 1, 4, 5).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. THIER whose telephone number is (571)272-2832. The examiner can normally be reached on Monday thru Friday 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T THIER/  
Examiner, Art Unit 2617  
7/6/2009